Taylor, W. R. 1945. Pacific marine algae of the Allan Hancock Pacific expeditions to the Galapagos Islands. Allan Hancock Pacific Exped. 12: i–iv, 1–528, incl. 100 pls., 3 text-figs.

Vickers, A. 1905. Liste des algues marines de la Barbade. Ann. Sci. Nat. Bot. ser. IX, 1: 45–66.

Yendo, K. 1902a. Corallinae verae Japonicae. Jour. Coll. Sc. Tokyo Univ. 16 (article 3). 36 pp., 7 pls.

————. 1902b. Corallinae verae of Port Renfrew. Minn. Bot. Stud. 2: 711–722, pls. 51–56.

————. 1902c. Enumeration of corallinaceous algae hitherto known from Japan. Bot. Mag. Tokyo 16: 185–196.

————. 1905. A revised list of Corallinae. Jour. Coll. Sc. Tokyo Univ. 20 (article 12). 46 pp.

A NEW YUCCA FROM SONORA, MEXICO

Howard Scott Gentry

Yucca grandiflora sp. nov. Arbor 3–4 m. alta; folia 70–100 cm. longa, 4–5 cm. medio lata, viridia, laevia, margine brunneo sparse-filifero, spina terminali valida basi sulcata, 2–2.5 cm. longa; inflorescentia paniculata, ramis lateralibus dense pubescentibus; perianthium subglobosum, segmentis subaequalibus, 7–9 cm. longis, ovatis, mucronatis, glabris; filamenta pubescentia, basi segmentorum adnata; ovarium elongatum, 4.5–6 cm. longum; stylus breviter 3-lobatus; fructum non vidi.

Arborescent, 3–4 m. tall, branching from the base and toward the crown, with deep leaf crowns; leaves 70–100 cm. long, 4–5 cm. wide at mid-blade, slightly narrowed above base, dark green, smooth, ascending to descending, persisting dry and deflected in age on the trunk, the margin narrow, brown, filiferate with long, fine, brittle threads, the terminal spine stout, brown, broadly grooved; inflorescence an irregular open panicle 70–100 cm. long; peduncle 10–30 cm. long, glabrate below; bracts and bractlets scarious, dull white, friable; lateral branches densely white-tomentose, flexuous, horizontal; flowers short-pedicellate to subsessile, glabrous, creamy white, divergent on horizontal, openly-spaced lateral branches (fig. 2); perianth 7–9 cm. long, the segments spreading, ovate, thin, bluntly mucronate, connate at base, the outer slightly smaller and thicker than the inner; filaments hyaline-pubescent throughout, the anthers oblong; pistil slender, 4.5–6 cm. long, deeply sutured, shortly beaked below the lobate stigma; fruits not seen.

Type. Above Tierra Negra, Cedros Range, east of Río Cedros, Sonora, Mexico, February 14, 1952, *Gentry 11601* (U. S. Nat. Herb. 2089433 and 2089434).

This plant differs from all other known species of *Yucca* in the large subsessile flowers borne on tomentose lateral branches in an open ragged-appearing panicle. Although the fruits are not available for study, the obvious relationship is with the group having fleshy fruits, the *Sarcocarpa.*

FIG. 1. Mature clump of *Yucca grandiflora* showing both basal and crownal branching. Above Tierra Negra on the Cedros Range in southern Sonora.

In the rather flexible, long, wide leaves and the pubescent lateral branches of the inflorescence, it resembles *Yucca schottii*. The large flowers and elongate pistils or ovaries, however, relate it more closely to *Y. arizonica,* from which it differs by the 1) pubescent lateral branches of the inflorescence as compared to glabrous branches, 2) subsessile flowers as compared to long-pedicellate flowers, 3) thin, finely veined, ovate perianth segments as compared to thicker, coarsely veined, lanceolate perianth segments, and 4) erect or divergent flowers as compared to nodding flowers.

In the type locality, where it formed a widely scattered colony, *Y. grandiflora* was found associated with species of *Quercus* and *Acacia pennatula* in an extensive tract of Oak Woodland having volcanically derived calcareous soils with a grass cover. Elevations here ranged from about 2500 to 3500 feet. A similar-appearing *Yucca* observed to the southeast of this locality, both along the Arroyo Guajaráy and the Río Mayo in adjacent Chihuahua, may prove eventually to be this species. It is known locally by its Warihio Indian name, "sahuiliqui."

This *Yucca* is one of many collected to determine sapogenin content. The leaves proved to contain 1.4 per cent sarsasapogenin, as reported by

FIG. 2. Type material of *Yucca grandiflora* before pressing. Note the divergent subsessile flowers and the horizontal, openly spaced, lateral branches.

the Eastern Regional Research Laboratory at Philadelphia.[1] Sarsasapogenin is one of the steroidal compounds regarded as precursor to cortisone and related drugs. The fairly high percentage value of sarsasapogenin, together with the fiber in the numerous leaves, indicates an economic potential for *Yucca grandiflora*.

Plant Introduction Section, Horticultural Crops Research Branch, Agricultural Research Service, United States Department of Agriculture, Plant Industry Station, Beltsville, Maryland

[1] Wall et al. 1955. Steroidal Sapogenins XXVI. Supplementary table of data for steroidal sapogenins XXV. U. S. Dept. Agr., Agr. Res. Serv. Circ. ARS–73–4.